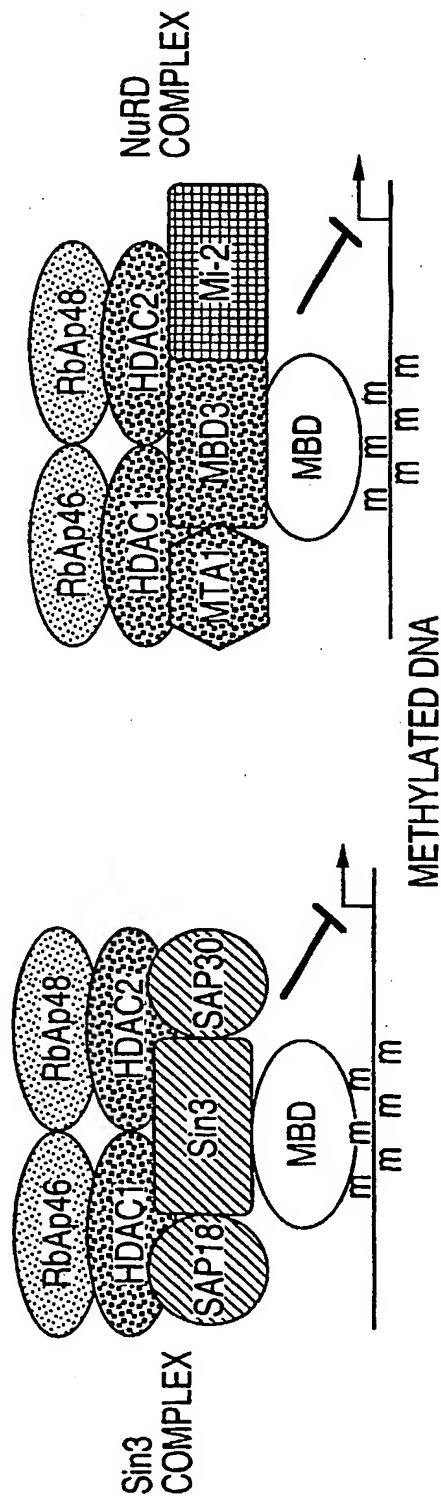


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FIG. 1

THE ROLE OF MBD2/MBD3 IN METHYLATION-DEPENDENT TRANSCRIPTIONAL REPRESSION

- MBD2 AND MeCP2 ASSOCIATE WITH Sin3, A KNOWN CORE COMPONENT IN REPRESSOR COMPLEXES
- MBD3 IS A CORE COMPONENT OF THE NuRD REPRESSOR COMPLEX
- MBD3 AND MBD2 ASSOCIATE *in vitro*
- MBD2 IS A COMPONENT OF THE MeCP1 REPRESSOR COMPLEX



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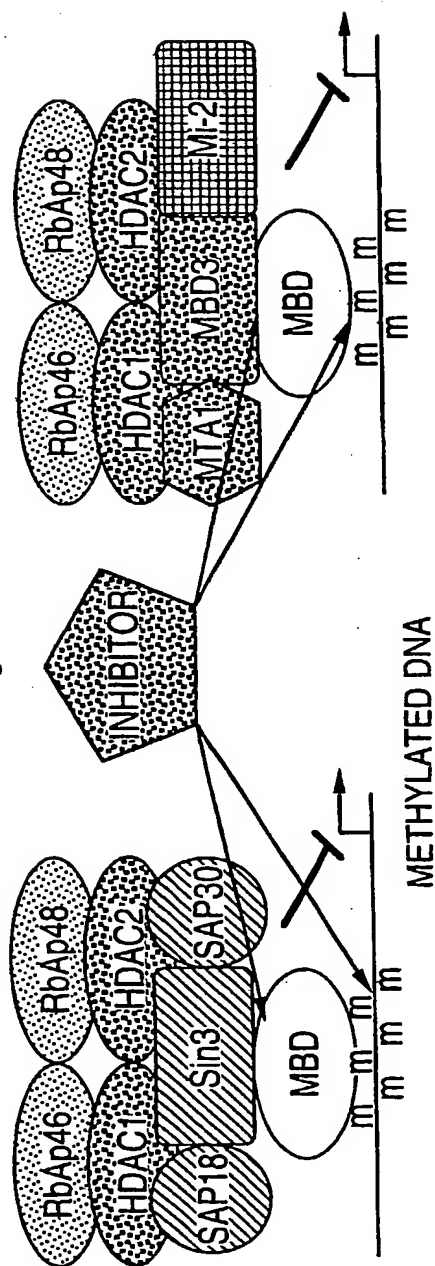
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FIG. 2

METHYLATION AS A PHARMACOLOGICAL TARGET

- 5-aza-2' deoxycytidine
-Inhibits DNA methylation

- Potential Inhibition of MBD proteins
- Alternative to inhibiting DNA methylation
- Would this cause gene reactivation?



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FIG. 3

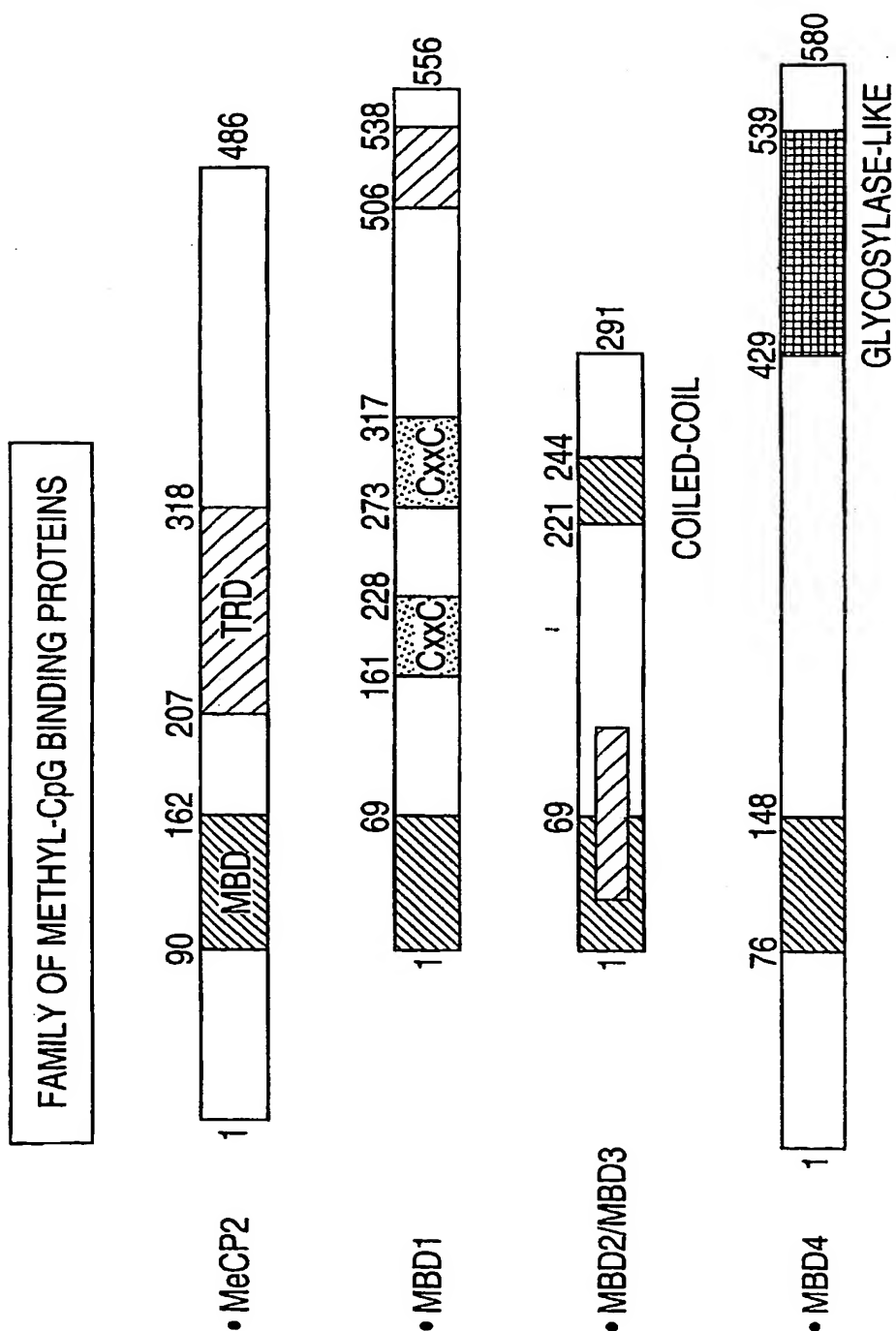
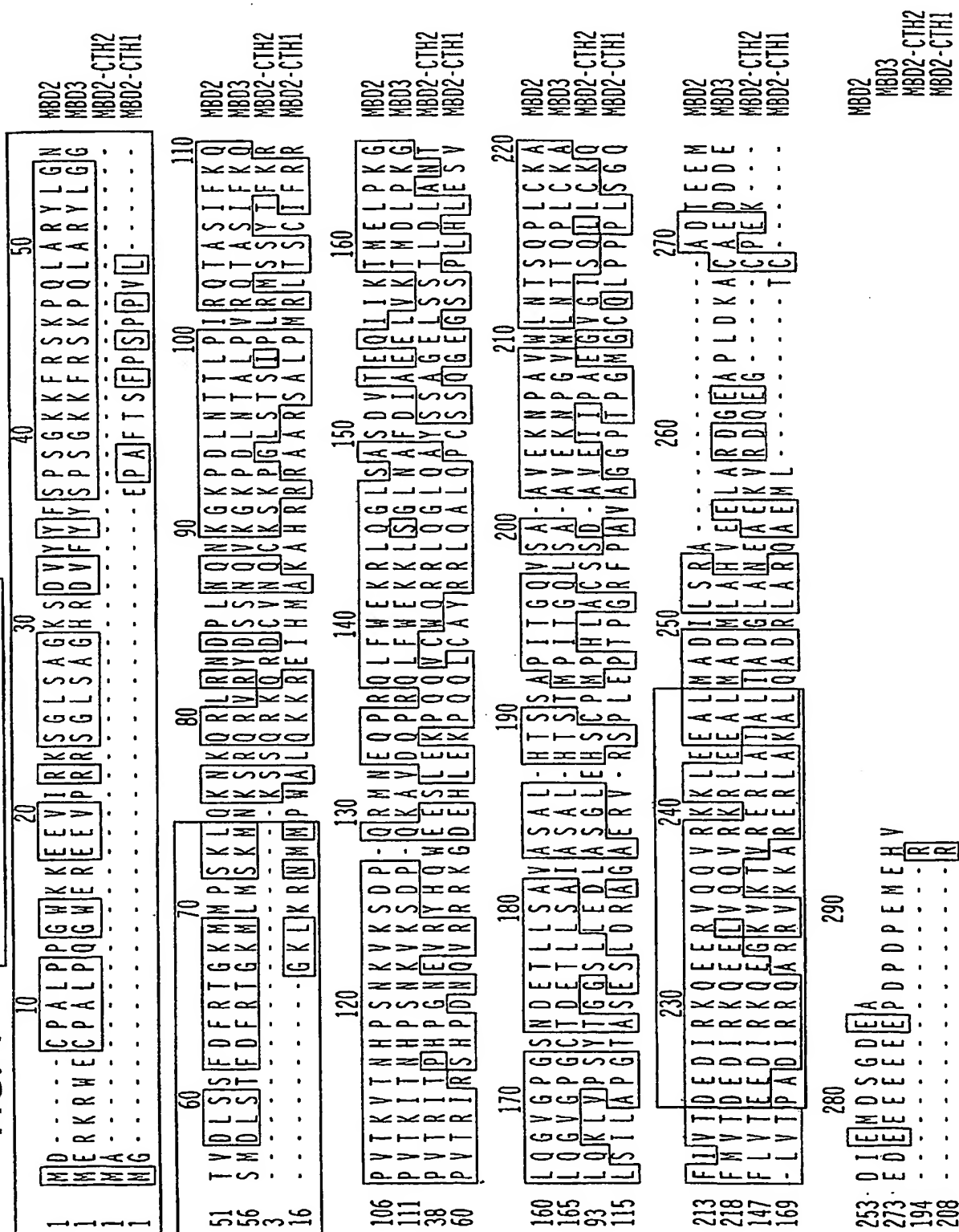
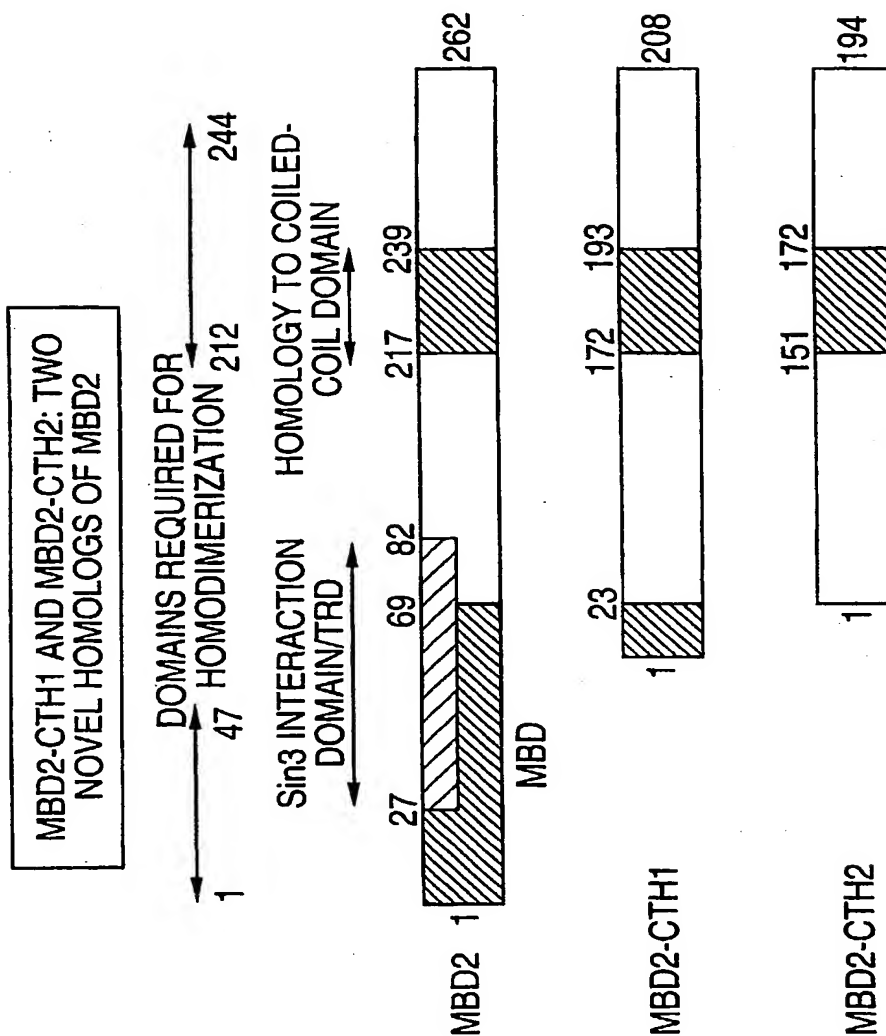


FIG. 4



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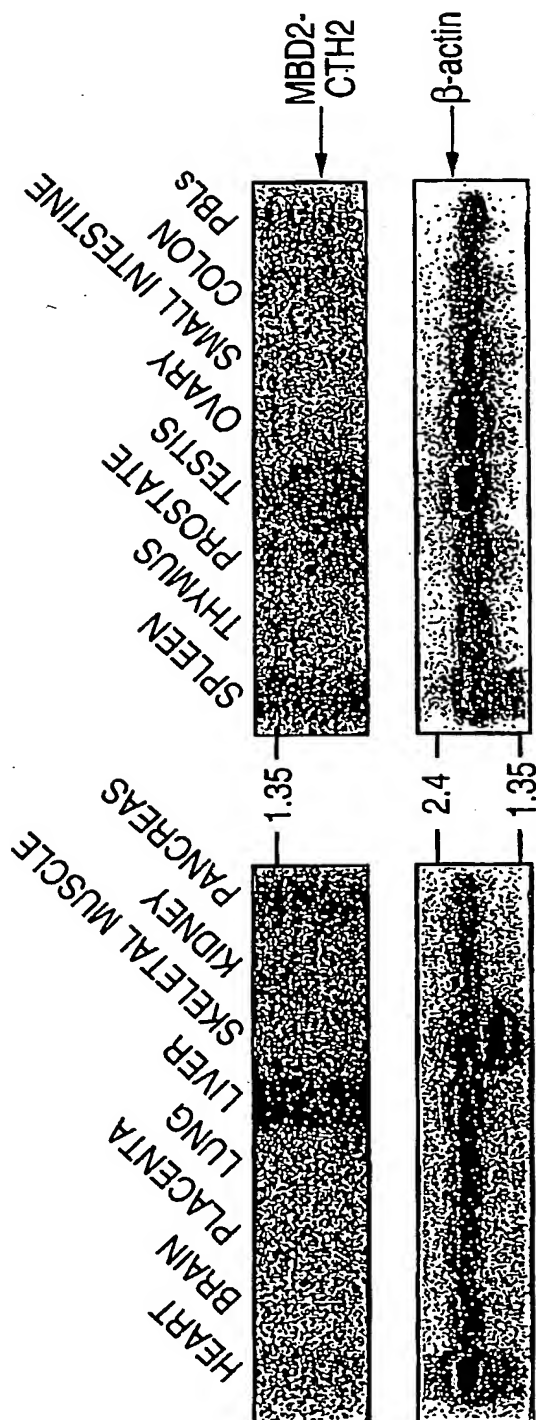
FIG. 5



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FIG. 6

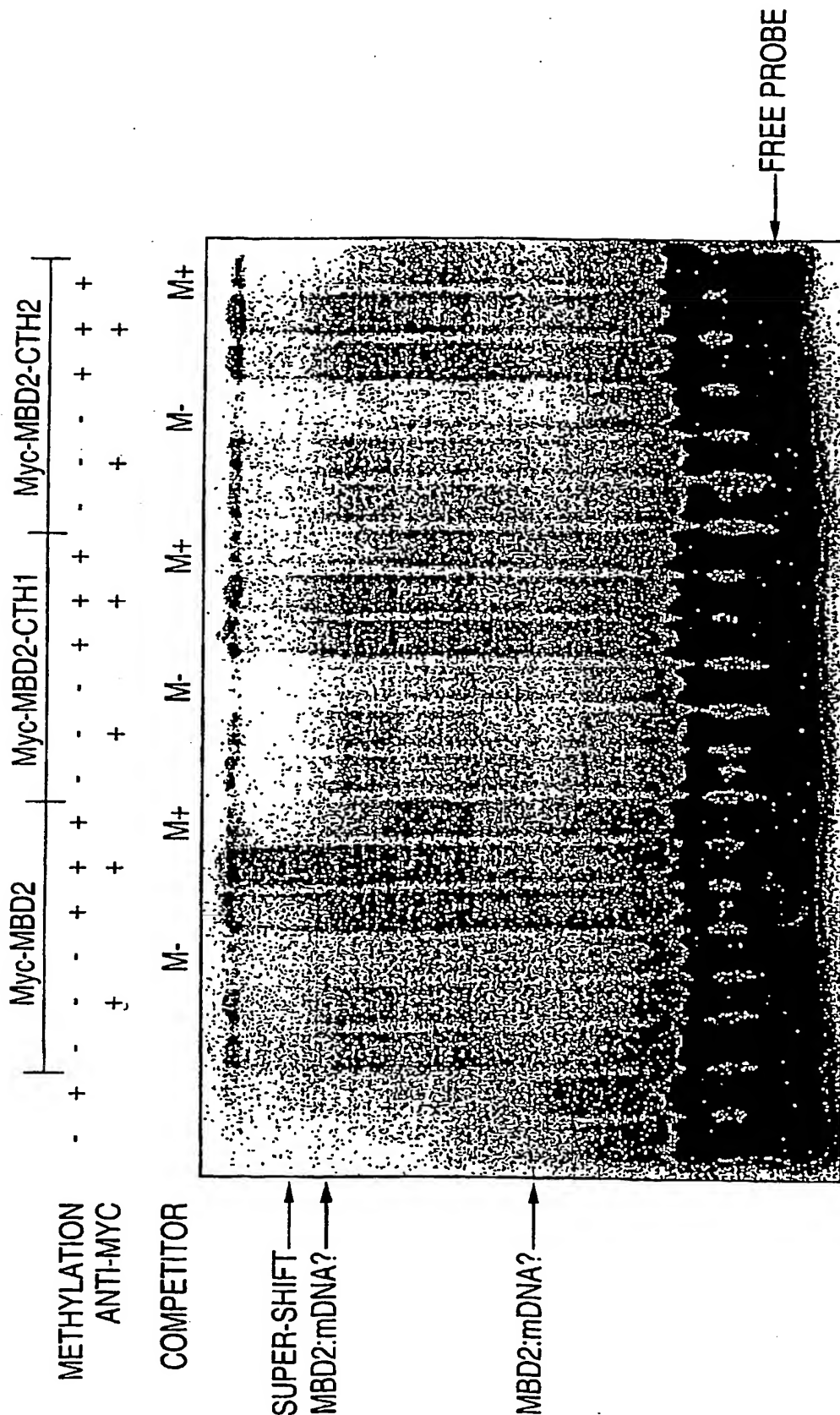
MBD2-CTH2 RNA IS EXPRESSED IN TESTIS



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FIG. 7

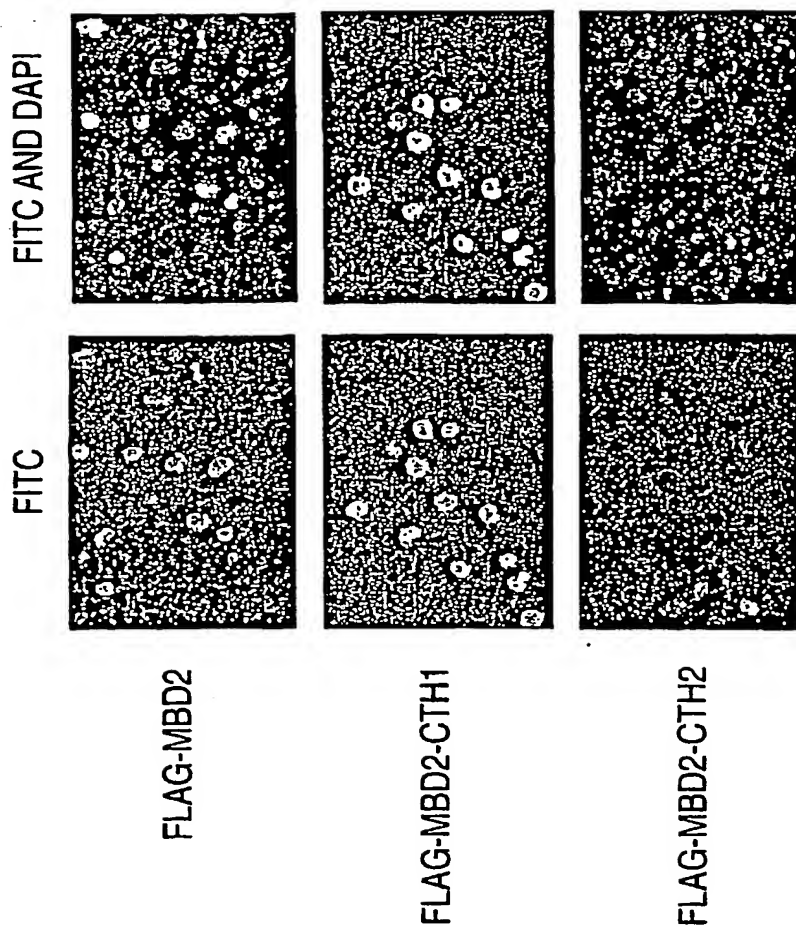
MBD2-CTH1 AND MBD2-CTH2 DO NOT BIND
 METHYLATED DNA



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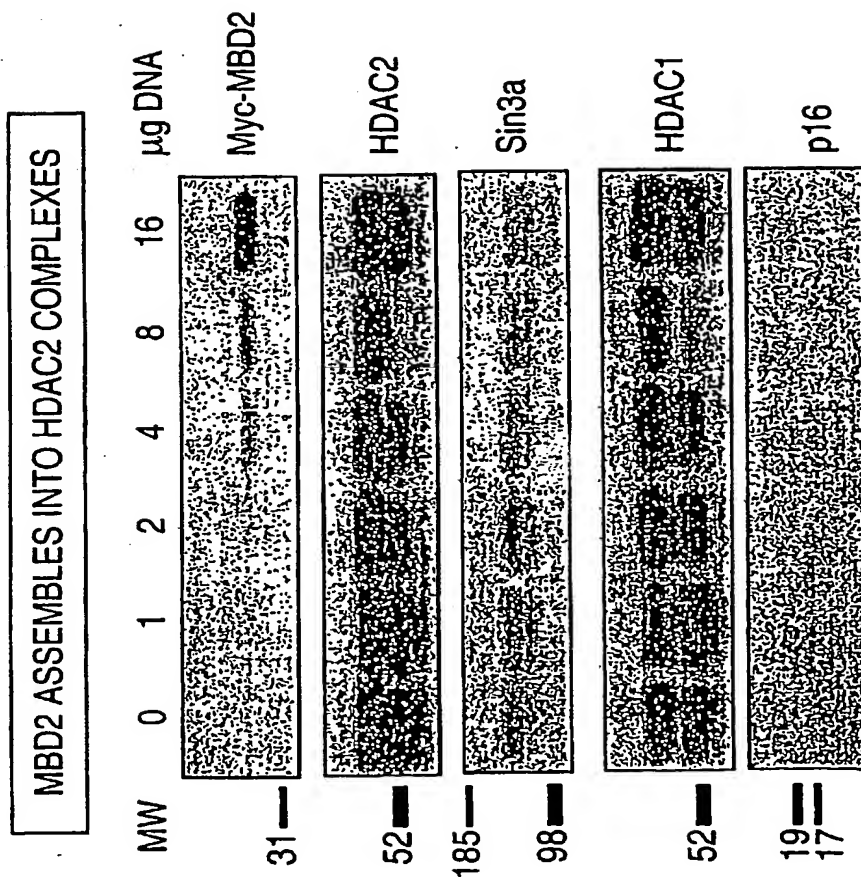
FIG. 8

MBD2-CTH1 AND MBD2-CTH2 LOCALIZE TO THE NUCLEUS



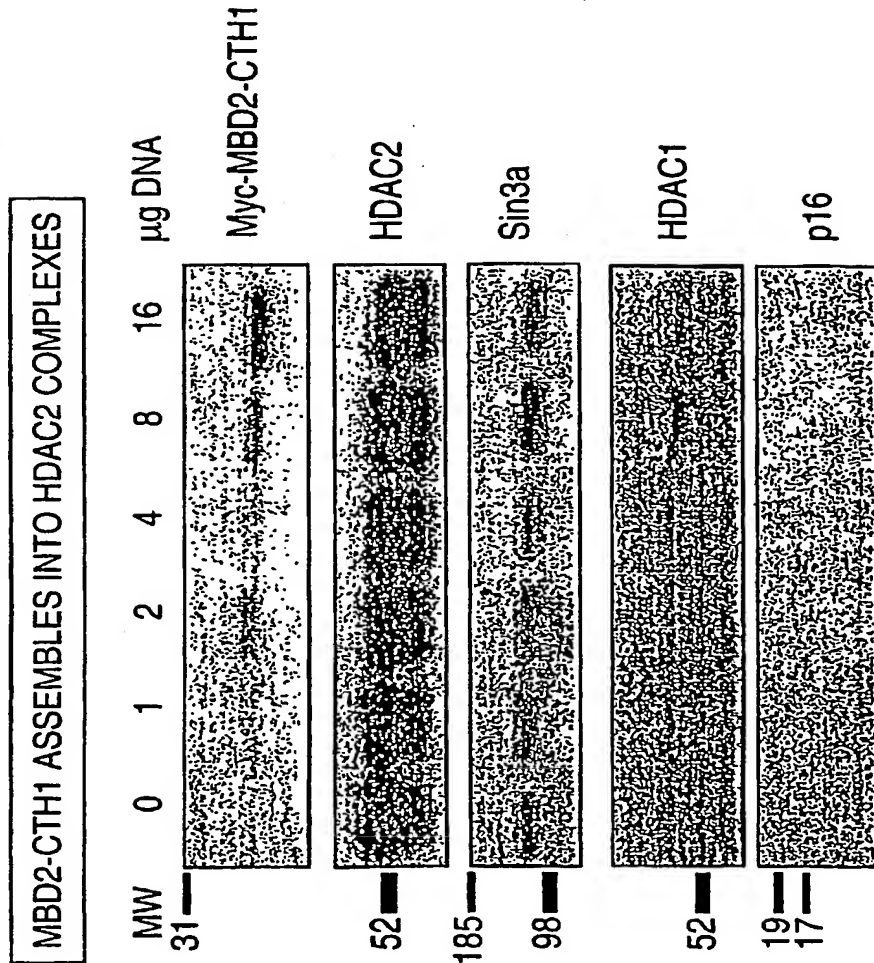
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FIG. 9



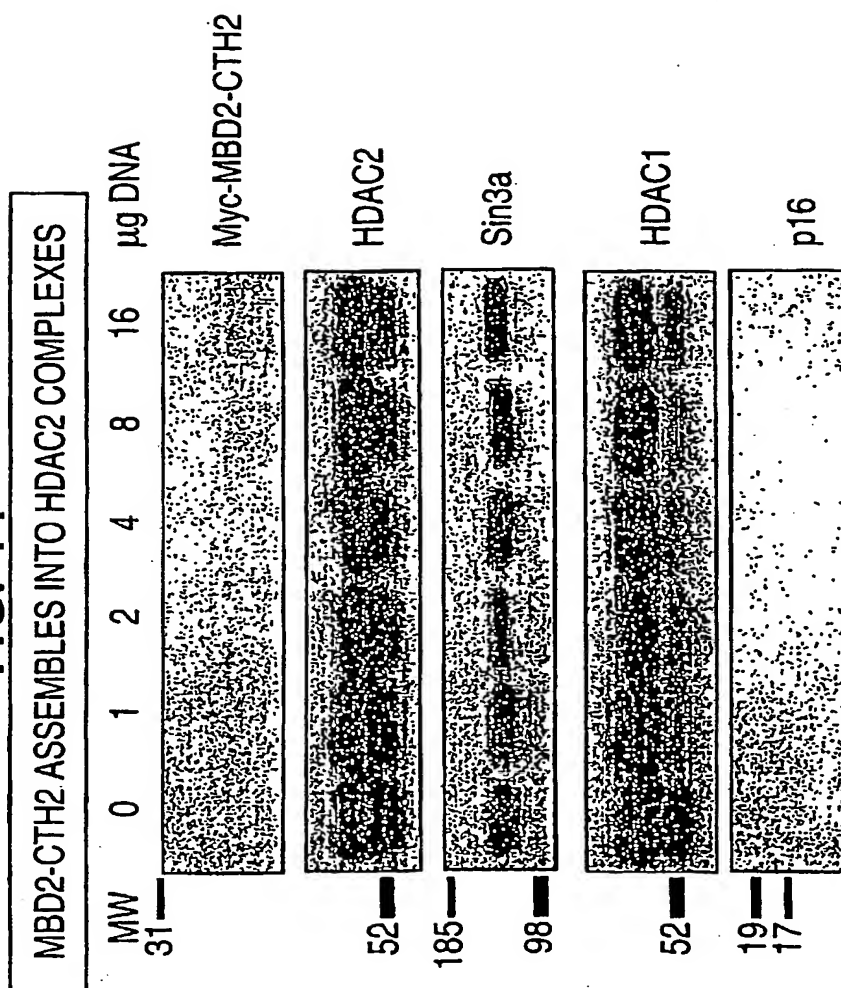
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FIG. 10



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FIG. 11



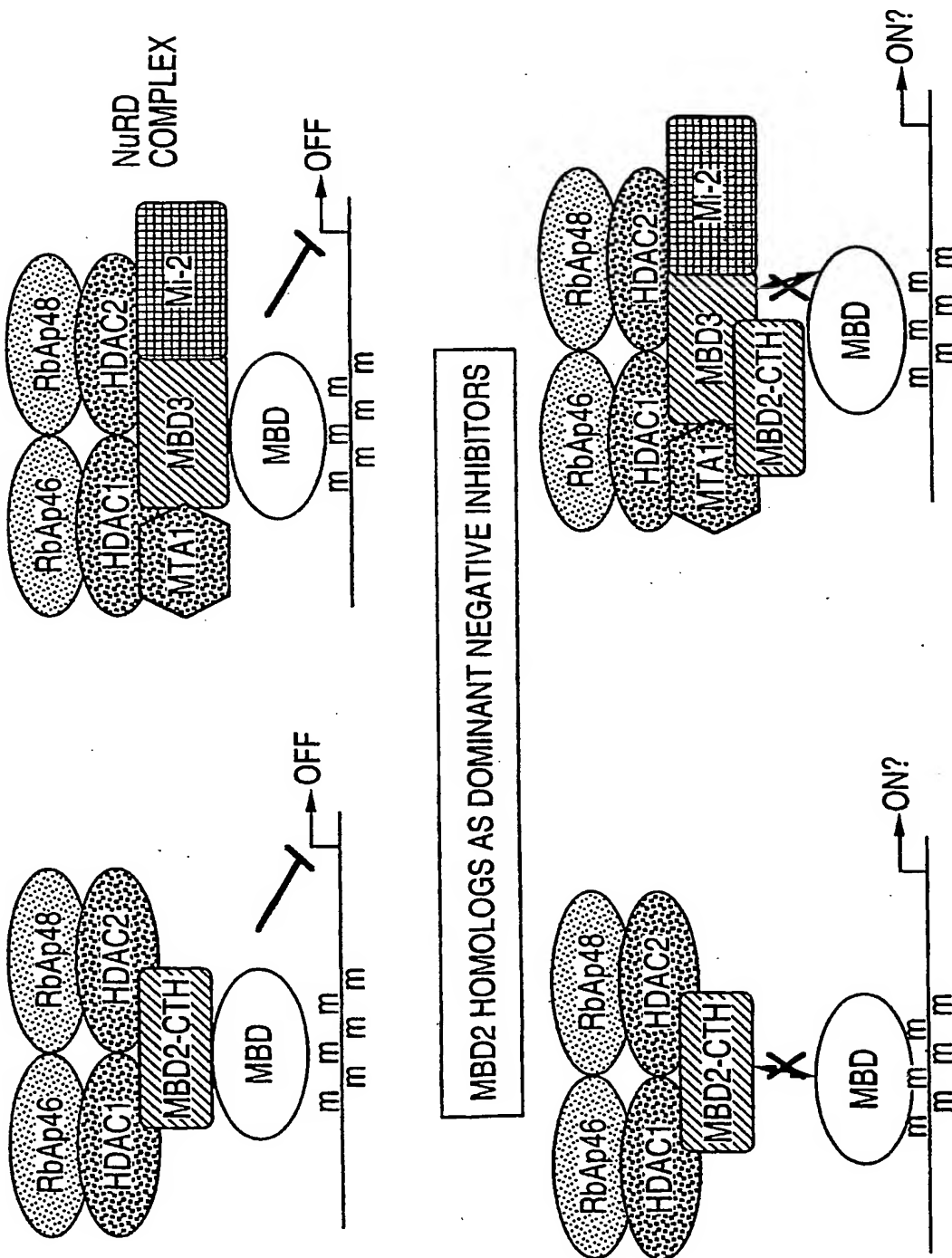
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FIG. 12

SUMMARY FOR MBD2-CTH1 AND MBD2-CTH2

- BOTH HAVE SEQUENCE HOMOLOGY TO THE C-TERMINUS OF MBD2, BUT LACK COMPLETE MBDS.
- MBD2-CTH2 EXPRESSED IN TESTIS.
- BOTH LOCALIZE TO THE NUCLEUS.
- BOTH DO NOT BIND METHYLATED DNA DIRECTLY.
- BOTH ASSEMBLE INTO HDAC2 REPRESSOR COMPLEXES.

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FIG. 13MBD2-CTH1 AND MBD2-CTH2 MAY BE COMPONENTS
OF REPRESSOR COMPLEXES

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